



# SIMULATIONS GUIDE

---

Caribbean Disaster Risk Management  
Reference Center





Copyright and All Related Rights reserved by CADRIM and IFRC

Photo credit: IFRC, Jose Manuel Jimenex (Haiti), Marc Belanger (St. Vincent), John Engedal Nissen (Bahamas), Andrei Pierre (Trinidad and Tobago)

The IFRC's Strategy 2030 proposes an urgent shift of leadership and decision making to the most local level- placing communities at the very centre of change. It prioritizes thinking beyond the borders of the Red Cross and Red Crescent by engaging many partners and actors to support positive change throughout the world, ensuring that the reach to vulnerable communities is at the forefront of building resilience and capacities to our increasingly complex humanitarian environments.

The Port of Spain CCST seeks to address the anticipated increase in emergencies by fostering and encouraging communities to take action to increase their resilience to these evolving, multiple shocks and hazards. This is important in this and other regions that continue to be confronted with critical development issues shaped by complex, dynamic, social, economic and environmental processes, including climate change, disaster risk, development and urbanization, interlocked within the reality of COVID 19. Among the environmental threats faced by the region is that of natural hazards caused by extreme weather events including tropical storms and heavy rainfall. These oftentimes lead to severe flash floods and landslides resulting in loss of lives, livelihoods and critical infrastructure in many countries in the region each year. In 2020 alone, 98.4 million persons were impacted by climate related disasters.

Caribbean Disaster Risk Management Reference Centre (CADRIM) supports the development of this Simulation Guide and the digitisation of it to promote the cross sectoral readiness, knowledge building and

overall guidance to the Red Cross network in the Caribbean, the Americas and globally. Emergencies are dynamic and can happen at anytime, the essence of this simulation guide is to achieve one of CADRIM's main goals to reduce risk at the community and institutional levels by integrating evidence, research and data to support National Societies' work with vulnerable communities in understanding needs prioritized risk, vulnerable capacity, socio-economic and environmental elements of resilience.

© Red Cross Caribbean Disaster Risk Management Resource Center, 2013

Copies of all or part of this guide may be made for noncommercial use, providing the source acknowledges CADRIM.

Requests for commercial reproduction should be directed to CADRIM at [cadrim.americas@ifrc.org](mailto:cadrim.americas@ifrc.org)

CADRIM with the support of its technical leads, the establishment of an internal Technical Advisory Group and the Disaster Management Network Team has produced this Simulation Guide to fortify the practical elements of emergency simulation planning.

Address: 110 Picton Street, Port of Spain,  
Trinidad and Tobago  
E-mail: [cadrim.americas@ifrc.org](mailto:cadrim.americas@ifrc.org)  
Website: [www.cadrim.org](http://www.cadrim.org)



# CONTENTS

1.0	INTRODUCTION	2	7.0 PHASE 4: EXECUTE THE TABLETOP SIMULATION	32
2.0	PURPOSE OF THE GUIDE	3	Step 1: Brief participants	34
3.0	SIMULATION EXERCISES	4	Step 2: Brief Evaluators	34
3.1	What is a simulation exercise?	4	Step 3: Ensure all participants are properly identified	34
3.2	When do I use a simulation?	5	Step 4: Manage the release of injects	35
3.3	How do I carry out a simulation?	5	Step 5: Manage discussions with participants	35
3.4	Typical Coordination Team Structure for a Tabletop Simulation Exercise	6	Step 6: Conduct a debrief immediately after the simulation	35
4.0 PHASE 1: PLAN THE TABLETOP SIMULATION		10	Step 7: Follow-up with participants	35
Step 1: Define the Aim of the Tabletop Exercise		12	8.0 PHASE 5: EVALUATE THE SIMULATION	36
Step 2: Define the Objectives of the Tabletop Exercise		12	9.0 Drills, Functional and Field Exercises	41
Step 3: Determine the Outputs and Activities for Each Objective		13	9.1 What are Drills, Functional and Field Exercises?	41
Step 4: Set Your Timeline for Each Output and Activity		13	9.2 Similarities between Discussion-Based Simulations and Operations-Based Simulations	43
Step 5: Define the Target Audience and Stakeholders		15	9.3 Types of Drills	43
Step 6: Identify the Resources and Logistical Arrangements Needed and Allocate a Budget		16	9.4 Why Do a Drill?	44
Step 7: Final Verification of the Preparations		18	9.5 How to Plan, Prepare for and Execute a Drill?	44
5.0 PHASE 2: DESIGN THE TABLETOP SIMULATION		19	9.6 Coordination Team Structure for Drills	45
Step 1: Develop the Master Truth		22	10.0 PHASE 1: PLAN THE DRILL	47
Step 2: Develop Supporting Materials		26	Step 1: Define the Aim	48
Step 3: Develop Injects		27	Step 2: Determine the Objectives	48
6.0 PHASE 3: ORGANISE THE SIMULATION		28	Step 3: Determine the Scope, Outputs and Activities for Each Objective	49
			Step 4: Set Your Timeline for Each Output and Activity	49
			Step 5: Define the Target Audience and Stakeholders	50
			Step 6: Identify the Resources and Logistical Arrangements Needed and Allocate a Budget	50
			Step 7: Verification of Preparations	53

11.0 PHASE 2: DESIGN THE DRILL	54
Step 1: Develop the Master Truth	56
Step 2: Develop Supporting Materials	58
Step 3: Develop Injects	58
12.0 PHASE 3: ORGANISE THE DRILL	560
13.0 PHASE 4: EXECUTE THE DRILL	66
Step 1: Brief Participants at all Staging Areas	68
Step 2: Brief Evaluators	68
Step 3: Ensure All Participants are Properly Identified	68
Step 4: Ensure All Participants are Aware of Safety Plan	68
Step 5: Manage the Release of Injects	68
Step 6: Manage Discussions with Participants	69
Step 7: Conduct Debrief (Hot Wash) Immediately After the Drill	69
Step 8: Follow-up with Participants	69
14.0 PHASE 5: EVALUATE THE SIMULATION	70
14.0 CONCLUSION: FOCUS ON THE AIM AND OBJECTIVES	74
15.0 RESOURCES	74



Trinidad & Tobago  
Red Cross Society

Trinidad & Tobago  
Red Cross Society

# 1.0 INTRODUCTION

According to the UNDRR report, 2020: The Non-COVID year in Disasters, 90% of the recorded events were climate related which affected 98.4 million people, caused 15,080 deaths and resulted in economic losses of at least US\$171.3 billion. These statistics demonstrates the general trend towards the increased occurrence of natural disasters on a global scale accompanied by growing negative consequences in terms of human victims, suffering, environmental degradation, and socio-economic development.

The overarching goal of disaster organizations, as endorsed by the Sendai Framework, is to make communities more resilient by increasing their capacity to protect their lives, livelihoods and health in particular. The main aim is to reduce existing risk and prevent new risk by undertaking actions that prevent and reduce hazard exposure and vulnerability to disasters while also increasing preparedness for effective response and recovery. This philosophy is also promoted in the IFRC's Roadmap to Resilience approach which is a community driven process which empowers communities to identify their hazards, vulnerabilities, threats and capacities and apply their knowledge to find their own solutions.

The Sendai Framework, under its Fourth Priority recommends conducting "evacuation drills, training and the establishment of area-based support systems, with a view to ensuring rapid and effective response to disasters and related displacement, including access to safe shelter, essential food and non-food relief supplies, as appropriate to local needs and to strengthen the

capacity of local authorities to evacuate persons living in disaster-prone areas".

Priority 4 also calls for empowering women and persons with disabilities to publicly lead and promote gender equitable and universally accessible response. Designing and implementing risk-informed preparedness plans and actions – including simulation exercises SIMEX – should consider the participation and contributions of women and girls, men and boys, people with disabilities, people with different barriers (cultural, linguistic, legal), older persons, indigenous peoples, migrants or others with access and functional needs and vital capacities, their organizations and networks.





# 2.0 PURPOSE OF THE GUIDE

This Guide has been prepared as a methodological training tool for National Society staff, volunteers, and members of Community Disaster Response Teams (CDRTs). More specifically, it is part of the effort to support and enhance National Societies in their response to disasters through tabletop simulations and any operations-based exercises such as drills, functional and field or full-scale exercises.

The training process for emergency and disaster response is significantly different from training in other areas of knowledge since disasters are unexpected situations (Muller 2003). Therefore, training must ensure that National Society volunteers, staff, and members acquire knowledge concerning risks, response and control measures, safe practices and promote the use of response and contingency plans at all levels.

The guide presents easy to follow steps and suggestions to consider when developing and executing different types of simulations. The guide proposes:

- 1. A process based on five phases: planning, designing, organizing, execution, and evaluation.**
- 2. A minimum of recommended activities, such as, roles and responsibilities of volunteers in emergency,**
- 3. Human and material resources required for implementation and**
- 4. Templates, forms, and checklists for the technical personnel designing a simulation.**



# 3.0 SIMULATION EXERCISES

## 3.1 WHAT IS A SIMULATION EXERCISE

A simulation exercise is an imitation of operations in a real-world process or system during a specific time. It is “an event that replicates selected aspects of a real emergency to provide an opportunity for testing procedures in place and raising awareness of preparedness and response requirements and actions” (WFP EPRP Simulation Guide, 2013). The IFRC also defines a simulation as: “... a partial representation of reality that selects crucial characteristics of an actual situation and makes a replication of it within a protected setting free of risks.”

According to the Sendai Design and Conduct of Simulation Exercises-Simex, there are four types of simulation exercises:

### 1. Tabletop exercises

A discussion-based exercise whereby stakeholders discuss actions to be taken during a made-up disaster situation. The goal of a tabletop exercise is to identify and resolve problems while allowing participants to better understand each other’s responsibilities, resources and operational procedures.

### 2. Drills

A operations-based exercise that requires mobilization and the use of resources during a made-up disaster scenario. The goal of a drill is to test a single specific operation, function, or system, for example a fire drill can be used to test an organization’s evacuation procedure.

### 3. Functional exercises

A fully simulated operations-based exercise that tests the capacity of an organization to respond to a made-up disaster situation. This exercise also

requires the mobilization and use of resources, but it differs from a drill in that it is used to test multiple functions of an organization’s operations plan.

### 4. Field exercises

A full-scale operations-based exercise that is conducted under a highly stressful environment, usually lasting up to several days. This type of exercise tests most functions within an operations plan as it involves more stakeholders and the mobilization and deployment of as many emergency personnel and equipment that will be needed in a real situation.

Essentially simulations are any exercises during which, participants must make decisions based on information (referred to as injects) that they receive of a made-up disaster/emergency scenario. The scenario or script, which is called a Master Truth<sup>1</sup>, is only seen by the coordinator/controller of the simulation and is based on realistic events. The events in the exercise happen in “simulated time” which can range from days to weeks.

An effective simulation relies on participants providing responses based on existing procedures, capacities, and resources. Therefore, each participant is assigned a role according to his or her actual occupation. Participants must be knowledgeable of their organisation’s standard operating procedures and resources to ensure the validity of the simulation.

It is important that simulation exercises are evaluated by experienced persons in the field of disaster management. The results of the evaluation should serve as lessons learned that can help in adapting and improving preparedness plans.

<sup>1</sup>The Master Truth is a document that communicates the story of the disaster from start to finish. You are the authors of the Master Truth, and only those who facilitate/coordinates the simulation are allowed to see this document. Within the Master Truth is the chain of events that makes the disaster complex and unique.



### 3.2 WHEN DO I USE A SIMULATION

Choose to do a simulation when you want to accomplish any of the following:

1. **Train small unit leaders with complex decision-making skills.**
2. **Familiarize staff and volunteers with the National Society's (NS) response and contingency plans and standard operating procedures.**
3. **Allow staff and volunteers to understand their role and practice the role they play in an emergency.**
4. **Identify gaps, errors, and opportunities for improvements in NS operational plans.**
5. **Test and enhance the ability and capacity of communities to respond to an emergency.**

### 3.3 HOW DO I CARRY OUT A SIMULATION?

There are five simple steps to follow when you decide you want to conduct a simulation:



**Helpful Tip:**

When planning your simulation, consider the following:

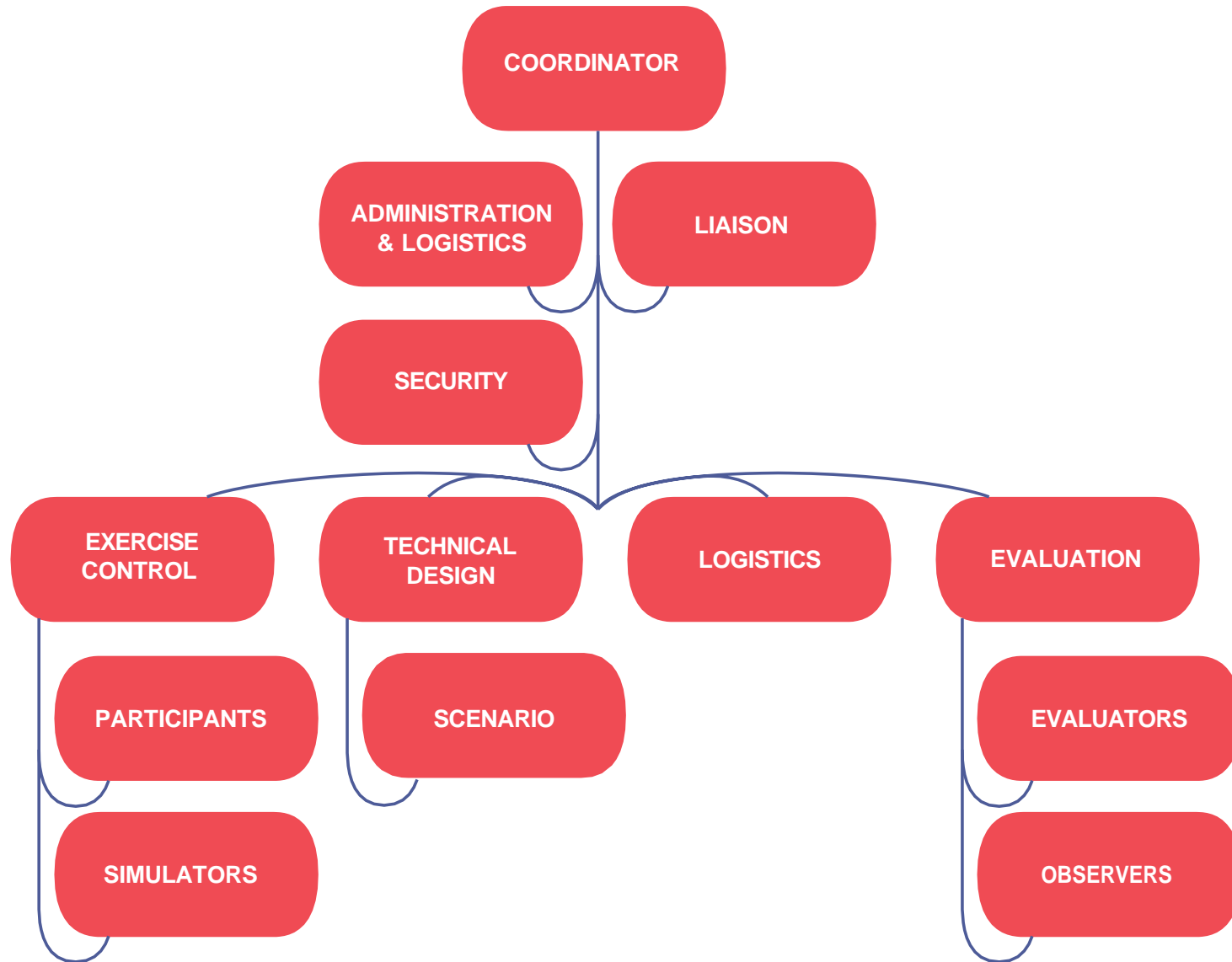
**TABLE 1: PLANNING TIPS**

<b>WHAT?</b>	What are the aim and objectives - what plans, resources, skills, and procedures are being tested?
<b>WHO?</b>	Who is being tested or will be involved in the simulation?  <i>Note: Simulations should be inclusive, therefore vulnerable persons/groups should be included in the planning and testing phases.</i>
<b>WHEN?</b>	When will the simulation exercise take place?
<b>HOW MUCH?</b>	How much will the simulation exercise cost?  <i>Note: The simulation could be either a discussion-based theoretical tabletop exercise or an operations-based exercise such as drills, functional and full-scale simulations. A tabletop simulation is a cost-effective way of testing plans.</i>
<b>WHERE?</b>	When will the simulation exercise take place?

**3.4 TYPICAL COORDINATION TEAM STRUCTURE FOR A TABLETOP SIMULATION EXERCISE**

A simulation consists of five main process: planning, designing, organising, executing and evaluating. When planning your simulation consider the team members that would be responsible for each of the five main activities. Your organisational structure should clearly define the roles of the various team members working together to complete each process as seen in the Table 2 below. A team should be formed to organize and carry out the simulation under the supervision of a Coordinator as shown in the coordination team structure (see Figure 1).

**FIGURE 1: COORDINATION TEAM STRUCTURE**



**Table 2: COORDINATING TEAM RESPONSIBILITIES**

<p><b>GENERAL COORDINATOR</b></p> <ul style="list-style-type: none"><li>- Establish and coordinate the teams responsible for different tasks in the preparation and execution of the simulation.</li><li>- Approve the premises for and all parameters of the exercise according to the items to be tested.</li><li>- Direct the internal and external activities before and during the exercise.</li><li>- Coordinate the self-assessment of the overall process of organizing the exercise.</li><li>- Prepare the budget.</li><li>- Coordinate documentation on lessons learned for the exercise.</li><li>- Prepare the relevant reports, including the financial report.</li></ul>	<p><b>EXERCISE CONTROLLER</b></p> <ul style="list-style-type: none"><li>- Review functional and methodological details for execution of the simulation with other teams.</li><li>- Ensure that all resources and details have been addressed for the exercise.</li><li>- Ensure that all participants understand the methodology and expected tasks of the exercise</li><li>- Oversee the development of the different events and time periods elapsed during the exercise, following the script.</li></ul>	<p><b>SCENARIO TEAM</b></p> <ul style="list-style-type: none"><li>- Design the scenario of the likely effects in collaboration with a team of specialists on topics related to the event being simulated</li></ul>
	<p><b>PARTICIPANTS</b></p> <ul style="list-style-type: none"><li>- Perform the assigned tasks and follow procedures as they pertain to participant specialties.</li><li>- These are the persons to be tested</li></ul>	<p><b>LOGISTICS TEAM</b></p> <ul style="list-style-type: none"><li>- Ensure the availability of facilities and equipment.</li><li>- Provide necessary supplies for the working groups.</li><li>- Provide adequate transportation for participants, guests, simulators, evaluators, and observers.</li><li>- Ensure the efficient and timely availability of all the resources required for the development of the simulation, including the purchase of necessary supplies and materials.</li></ul>
	<p><b>TECHNICAL DESIGN TEAM</b></p> <ul style="list-style-type: none"><li>- Develop the script of the exercise and prepare all the related devices.</li><li>- Determine the logistical requirements for the exercise in accordance with the script.</li></ul>	

**Table 2: COORDINATING TEAM RESPONSIBILITIES (continued)**

EVALUATION TEAM	EVALUATORS	OBSERVERS
<ul style="list-style-type: none"><li>- Know the details of the script and all related mechanisms for the exercise, especially the evaluation instruments.</li><li>- Evaluate the decisions taken by participants during the exercise in accordance with the script and expected actions and use evaluation instruments to record the observations.</li><li>- Conduct the plenary session of the exercise evaluation.</li><li>- Provide a final exercise evaluation report to the Coordinator.</li></ul>	<ul style="list-style-type: none"><li>- Use the evaluation forms during development of the simulation.</li><li>- Participate in the plenary analysis sessions and evaluation sessions.</li><li>- Give explanations for the criteria used in the simulation evaluation form.</li></ul>	<ul style="list-style-type: none"><li>- Observers have the experience or level of authority to evaluate specific processes or activities and are part of the evaluation team.</li><li>- Participate actively during the exercise and present general evaluation criteria during the plenary analysis session immediately following the exercise.</li><li>- Observers may use specific observation guidelines or use their own criteria based on their experience.</li></ul>

Source: Guidelines for developing emergency simulations and drills, PAHO, 2011

Once you have formalised your team you can start the seven processes to plan and execute the simulation.







4.0 PHASE 1

# PLAN THE TABLETOP SIMULATION



# STEP 1

DEFINE THE AIM OF THE TABLETOP EXERCISE

The aim is a high-level purpose for conducting this simulation. For example, it can be used to improve communication and coordination within your organisation, or it can be used to test your standard operating procedures or develop a contingency plan.

# STEP 2

DEFINE THE OBJECTIVE OF THE TABLETOP EXERCISE

When planning a tabletop simulation, it is important to identify what plans, skills and procedures should be tested. Also determine how individuals or groups can expect to improve their knowledge, enhance skill sets, develop new abilities, or modify behaviours. Simulation exercises can also help with identifying gaps within your organization's standard operating procedures and response areas that need improving.

Most simulations have between three to five objectives. Objectives should be clear and concise and should be shared with participants at the start of the simulation exercise. The following are some examples of why you may choose to conduct a simulation:

- 1. To test the response capacity of national society staff.**
- 2. To evaluate and test ICT strategies and policies of National Societies.**
- 3. To Identify gaps and develop relevant skills of the national society staff**



# STEP 3

## DETERMINE THE OUTPUTS AND ACTIVITIES FOR EACH OBJECTIVE

When determining the scope of the simulation consider the objectives and identify the outputs and activities that must be completed to achieve those objectives. The outputs and activities that you decide on will also help with making a number of key decisions such as what skills are required, who will be the main stakeholders and what resources will be needed.

Some of the outputs can include a Situation Report, a Plan of Action, an Operations Strategy, Emergency Messages, the creation of Hazard Maps and other important documents that will be expected to be produced in a real-life situation. Share the expected outputs with stakeholders so that they will know what is expected from them during the simulation.

# STEP 4

## SET YOUR TIMELINE FOR EACH OUTPUT AND ACTIVITY

With regards to the actual simulation, you must decide on which phases of the disaster management cycle (preparedness, mitigation, response, rehabilitation), should be tested to best achieve your objectives. In a simulation it is not uncommon to test more than one phase, however, it depends on the type and scale of the disaster you choose to design. These phases can be represented by different “time jumps”. Time jumps are used to simulate a long period of time in the imaginary emergency within a few hours (see Table 3).



**TABLE 3: DEVELOPING TIME JUMPS AND OUTPUTS**

PHASE	REAL TIME	TIME JUMP	OUTPUT
Early Warning/ Preparedness	First 45 mins of the simulation	0-24 hours of the disaster	<ol style="list-style-type: none"><li>1. Situation Report</li><li>2. Plan of Action</li><li>3. Press Release</li></ol>
Response	First 1-2 hours of the simulation	0-72 hours of the disaster	<ol style="list-style-type: none"><li>1. Updated Situation Report</li><li>2. Updated Plan of Action</li><li>3. Additional Press Releases</li><li>4. Operational Strategy</li><li>5. Map of impacted areas</li></ol>
Response/ Rehabilitation	3-4 hours of the simulation	One week after the disaster	<ol style="list-style-type: none"><li>1. An Emergency Plan of Action</li><li>2. Month-long strategy is developed.</li></ol>

# STEP 5

## DEFINE THE TARGET AUDIENCE AND STAKEHOLDERS

A crucial part of having a successful tabletop exercise is identifying the target audience and establishing rapport to ensure their buy-in. The selection of the target audience must be strategic and should be based on the aim and objectives identified in Steps 1 and 2. Examples of the target audience may include CDRT members for a refresher training or National Society staff and volunteers to test their response mechanism.

Identifying your stakeholders or participants is also important as these would include several agencies and institutions involved in the different phases of the disaster management cycle. Stakeholders may include organisations and volunteers responsible for assisting with or providing food, water, WASH, psychological support, shelter, health and medical support, logistics, finance and conducting assessments. It is important to choose participants based on their level of authority and ability to make decisions during a real-life emergency.

# STEP 6

## IDENTIFY THE RESOURCES AND LOGISTICAL ARRANGEMENTS NEEDED AND ALLOCATE A BUDGET

This refers to the planned timing of the various activities to be carried out by the team during the preparation and execution of the simulation exercise. This allows those responsible to track the entire process of executing all activities and follow-ups in a timely way.

The objective of the simulation may include testing of the National Society's Standing Operating Procedures and disaster contingency plans. Identify any additional plans or documents that are relevant to the simulation and ensure that all participants have access to these plans.

**Remember:** Participants representing other partnering organisations must also ensure that they are aware of their organisational plans and policies as well as the emergency resources that can be used in a real-life situation. This is important so that any resource gaps can be identified during the simulation.

Before a budget can be created, develop a resources list and identify any logistical arrangements needed. Consider all that will be needed during the preparation, implementation, and evaluation phases.



The budget may be supported by other stakeholders, ensure that any additional funding from stakeholders is captured under the heading “Amount Sponsored” in the budget. The following are examples of a resources and logistical arrangements checklist and a budget:

**TABLE 4: RESOURCES LIST AND LOGISTICAL ARRANGEMENTS**

<b>RESOURCES CHECKLIST</b>	<b>LOGISTICAL ARRANGEMENTS</b>
<ul style="list-style-type: none"><li><input type="radio"/> Multi-media projector, power cord and connection cord.</li><li><input type="radio"/> Laser pointer (optional).</li><li><input type="radio"/> Screen (or you can put up a sheet or project directly onto a white wall).</li><li><input type="radio"/> Laptops.</li><li><input type="radio"/> Extension cord with at least two 3-pin sockets or extension cord, plus multi-socket strip.</li><li><input type="radio"/> Amplifier or microphone (if needed)</li><li><input type="radio"/> Flip chart easel</li><li><input type="radio"/> Flip chart paper</li><li><input type="radio"/> Markers, both large and fine pointed, in at least 4 colours, with sufficient for the facilitator to use and for 4-5 groups to be working simultaneously</li><li><input type="radio"/> Writing paper/Post-It notes and pens/pencils for participants</li><li><input type="radio"/> Ring binders and ring binder index dividers for participants' handbooks</li><li><input type="radio"/> Prepare certificates for each participant.</li></ul>	<ul style="list-style-type: none"><li><input type="radio"/> Venue</li><li><input type="radio"/> Additional furniture needed at venue</li><li><input type="radio"/> Catering</li><li><input type="radio"/> Transport arrangements</li><li><input type="radio"/> Accommodation arrangements</li></ul>



**TABLE 5: PROPOSED BUDGET**

<b>EXPENSE ITEMS</b>	<b>QTY</b>	<b>NO. OF DAYS</b>	<b>UNIT PRICE</b>	<b>CURRENCY</b>	<b>PAYMENT METHOD (CASH, BANK TRANSFER OR CHEQUE)</b>	<b>SUB-TOTAL</b>	<b>AMOUNT SPONSORED</b>
<b>TRANSPORT COST</b>							
<b>RENTING EXTERNAL CONFERENCE ROOM</b>							
<b>LUNCH</b>							
<b>REFRESHMENTS AND COFFEE BREAKS</b>							
<b>STATIONERY (NOTEPADS, PENS, FLIPCHARTS)</b>							
<b>PRINT-OUTS (CERTIFICATES, SOP)</b>							
<b>OTHERS</b>							
<b>TOTAL</b>							



# STEP 7

## FINAL VERIFICATION OF THE PREPARATIONS

Apart from monitoring the schedule, a general meeting of the implementation team (identified in the organisational structure in section 1.4) should take place to confirm all activities that need to be completed and to identify any gaps that might exist.

**TABLE 6: ASSIGNING ACTIVITIES**

ACTIVITIES	NAME OF PERSON (ROLES ON TEAM)	START DATE	END DATE	STATUS
Ensuring availability of Facilities and equipment (comes from List of activities in Activity 3)	John Doe (Logistics Team)			Completed/ On-going. Not started.







  
TRINIDAD & TOBAGO  
RED CROSS SOCIETY



**5.0 PHASE 2**

**DESIGN THE  
TABLETOP  
SIMULATION**



During the design stage the various components of the exercise are planned, including the events to be addressed by the simulators, the tasks to be performed, the resources that will be available, and all other necessary items needed for the exercise.

# STEP 1

## DEVELOP THE MASTER TRUTH

The master truth also known as the 'Script,' gives an overview of what has happened and the timeline of events that occurs throughout the duration of the simulation. Therefore, the script consists of a description of the features of the phenomenon and its effects on the population, infrastructure, services, environment, and general impact on the affected area(s). The time allocated for the development of each output as identified in Step 4 of the planning process, must be clearly established.

The scope determines the scale of the simulation and may require actions to be taken by participants during different phases of the disaster management cycle. It also determines the geographic coverage, the level of complexity, and the number of participants needed. The script should be logical and based on past and predicted events and should include situations that require the participants to respond using a variety of protocols, procedures, and resources.

**Note: The script is never shared with the participants before the simulation to ensure the validity of the simulation.**

When developing the script, make sure to include the following components (adapted from Guidelines for developing emergency simulations and drills, PAHO, 2011):

### 1. Demographic and Geological Characteristics:

- The demographic profile of the communities or country (depending on the scale of the simulation) being impacted
- The geological profile of the area being impacted
- Risks and vulnerabilities
- Economic characterizes of the area (type of production activities and services)
- Resources and capacities
- Health infrastructures
- Access to utilities

### Example:

The settlement of Joshua Creek lies between two rivers which have the potential to overtop their banks during exceptionally heavy rainfall. When it does so, the village is cut off from the rest of the county, since the bridges over the rivers become impassable and due to erosion by the flood waters, may even have their supports destabilized.

The settlement has a population of about 800 persons, a Health Centre and primary and secondary school. The secondary school and the Community Centre in the area are designated as emergency shelters. There is a small hospital and Fire Department in the adjacent town of El Porto which is about 10 miles away. Many persons in Joshua Creek and neighbouring communities are farmers.



## 1. Disaster Narrative Summary:

- The type of event
- The date and time of the event
- Who are impacted:
  - The number of fatalities
  - The number of persons injured
  - The number of persons missing
  - The number of persons affected
- Damage to public facilities (total collapse or with serious, moderate, or slight damage; number damaged and type of damage; and consequences).
- Damage to private facilities (total collapse or with serious, moderate, or slight damage; number damaged and type of damage; and consequences).
- Damage to critical networks and infrastructure (total collapse or with serious, moderate, or slight damage; number damaged and type of damage)
- Damage to critical services (total collapse or with serious, moderate or slight damage; number damaged and type of damage; consequences, etc.).



**Example:**

**TABLE 7: MASTER TRUTH**

PHASE	REAL TIME	TIME JUMP	SITUATION
Early Warning/ Preparedness	First 45 mins of the simulation	0-24 hours of the disaster	The weather forecast indicates that a tropical storm is about to pass over the island on Monday 6th June and continuous rainfall is expected for at least 6 hours.
Response	First 1-2 hours of the simulation	0-72 hours of the disaster	The rivers have overflowed their banks and caused major flooding. Quick facts: No. of persons affected: 215 No. of persons deceased: 10 No. of stranded persons: 25 No. of persons needing shelter: 216 Houses damaged: 27 Dead cattle: 400 Affected crops: 52% of farmlands Damage to infrastructure: 1 bridge destroyed.
Response/Rehabilitation	3-4 hours of the simulation	One week after the disaster	The number of persons deceased remains at 10. Unsanitary conditions exist in shelters. There is an increase in the number of persons with dengue. Destroyed bridge is being rebuilt. No. of shelters open: 5 No. of persons in shelters: 172 No. of persons in shelters with dengue: 43

# STEP 2

## DEVELOP SUPPORTING MATERIALS

Supporting materials are documents that replicate the type of information that would be available in a real disaster. Examples of supporting documents include media reports, situation reports, government statements, assessment reports, emails from Headquarters (HQ) or a branch office and other similar types of communication.

Supporting documents are presented to participants at set times during the simulation to help escalate or evolve the initial event.

**TABLE 8: SUPPORTING MATERIALS**

0-72 HOURS AFTER THE DISASTER SUPPORTING MATERIALS			
MATERIAL	RELEASE TIME	DOCUMENT TITLE	DATE
Meteorological Office Press Release	9:00a.m	Tropical storm expected to pass over island.	June 5th
News Article	9:45a.m	Flooding caused by Tropical Storm devastates communities leaving persons stranded on rooftops.	June 6th 6:00p.m
DREF Report	10:45a.m	Estimated damage.	June 7th
Situation Report from HQ	12:00p.m	Increase in numbers of persons with dengue in shelters	June 7th



# STEP 3

## DEVELOP INJECTS

An inject is a prompt or an update on the scenario that stimulates additional responses from participants. These injects inform participants of further developments of the simulated events, pose extra problems, and/or provide instructions. They are pre-planned and delivered sequentially as established in the script. They can be delivered orally, in print, or electronically and can be substantiated by the supporting materials developed in Step 2.

**Note: Injects should be created in alignment with the objectives of the simulation. They should prompt participants to act, make decisions or provide information. If you wish to test participants' knowledge of using alternative forms of communication, then the injects should get them to perform actions that will help to test their communication plan and ability to use handheld radios.**

**TABLE 9: DEVELOPING INJECTS**

REAL TIME	TIME JUMP	INJECT #	INJECT SUMMARY	INJECT OBJECTIVE
9:00a.m	0-12 hours before	1	Press Release from the Meteorological Office states that Tropical Storm is expected to pass over the island on June 6th.	Make participants aware of the incoming TS and begin preparedness measures. Alert volunteers and CDRTs.
9:45a.m.	0-72 hours after	2	At 1 a.m a call comes in to the EOC that the rivers have overflowed their banks. Persons are reported to be stranded in their homes and some had had to seek refuge on rooftops and other high areas of their homes or in other buildings.	Activate participants response mechanisms and to trigger the creation of situation reports, plan of action and craft emergency messages.





## **6.0 PHASE 3**

# **ORGANIZE THE TABLETOP SIMULATION**



This process involves executing all the activities identified in Step 7 of the planning phase. Another meeting should be scheduled with the implementation team (section 1.4) to ensure that all activities are being executed and to discuss any challenges encountered. Use the activity table created in Step 7 as well as the general checklist below to help guide the organising of the simulation.

**Note: The preparation time is the period in allocated to complete the identified activities.**

**TABLE 10: RESOURCES AND LOGISTICAL ARRANGEMENTS CHECKLIST**

PREPARATION TIME	DETAILS OF ACTIONS TO BE CARRIED OUT
3-6 weeks before	<ul style="list-style-type: none"><li>- Participant invitation list developed.</li><li>- Participants invited via email or phone calls and sent any accompanying information (agenda, requests to notify any dietary requirements).</li><li>- Venue selected (with wall space and space for breakout groups) and booked.</li><li>- Accommodation arrangements for facilitator and/or participants confirmed.</li><li>- Transport arrangements for facilitator and/or participants made (if applicable).</li><li>- Catering for the workshop arranged.</li><li>- Equipment booked or organised internally.</li><li>- Contact list for all key persons (venue coordinator, caterer) created.</li></ul>
1-2 week/s before	<ul style="list-style-type: none"><li>- Participants reminded of date, location, workshop title, dress code etc. via email or phone calls.</li><li>- Venue confirmed with detailed instructions on layout.</li><li>- Accommodation arrangements for facilitator and/or participants confirmed (if applicable).</li><li>- Transport arrangements for facilitator and/or participants confirmed (if applicable).</li><li>- Numbers for catering confirmed and catering booked.</li><li>- Participant contact list finalised, ensuring that you have, if possible, mobile contact numbers.</li></ul>



#### Week of the workshop

- Participant reminded of date, location, workshop title (text message, phone call, email).
- All materials prepared and copied.
- Equipment checked (see full list of equipment and materials above)

#### A day prior to the workshop and day of workshop

- Check the venue and set up, adapt as needed.
- Set up and check equipment.
- Put out participants' folders.
- Create a welcome flip chart
- Introduce yourself to participants as they arrive
- Organise your session plans and handouts in a convenient but tidy way





**7.0 PHASE 4**

**EXECUTE THE  
TABLETOP  
SIMULATION**



On the first day of the tabletop simulation ensure that all participants are registered and given folders with the relevant instructions and timetable for the simulation exercise. After this is done, the simulation exercise can begin. The following steps will help guide the executing process:

# STEP 1

## BRIEF PARTICIPANTS

The general coordinator and the person responsible for monitoring the exercise (controller) should explain the simulation process, the objectives of the tabletop exercise, the roles assigned to the participants and the expected outputs of each role before given the all clear to start.

# STEP 2

## BRIEF EVALUATORS

The general coordinator should explain that evaluators and observers should observe the work of the participants without interrupting them or the flow of the tabletop exercise

# STEP 3

## ENSURE ALL PARTICIPANTS ARE PROPERLY IDENTIFIED

Everyone at the simulation site must be properly identified so that it is clear what roles and actions each will perform within the area designated for the exercise.



# STEP 4

## MANAGE THE RELEASE OF INJECTS

The control team manages the execution of the exercise and the sequence of releasing the injects and supporting documents that reveal the situations, problems, and resources as determined by the script.

# STEP 5

## MANAGE DISCUSSIONS WITH PARTICIPANTS

Participants take individual or collective decisions according to injects or situations that are presented in the script.

# STEP 6

## CONDUCT A DEBRIEF IMMEDIATELY AFTER THE SIMULATION

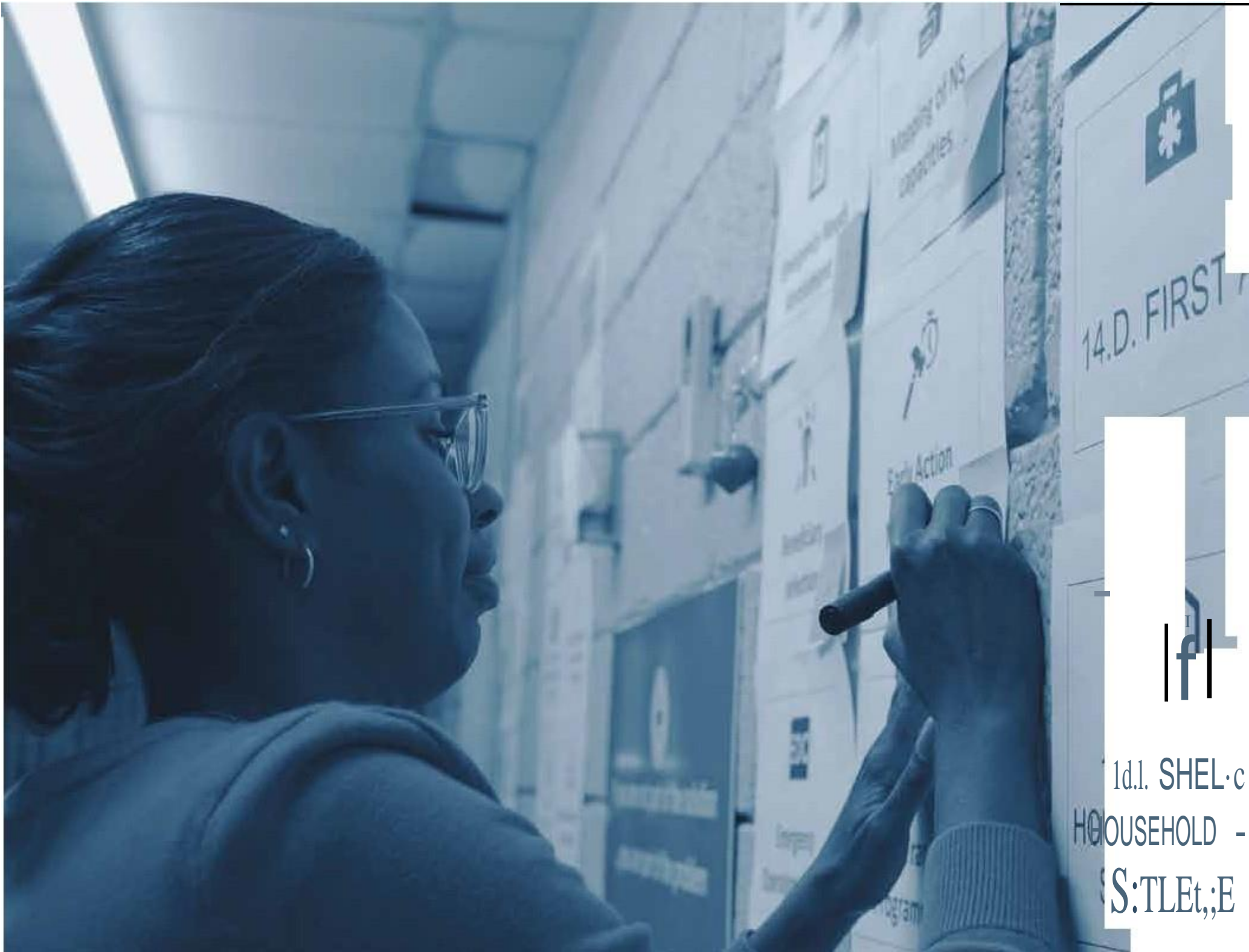
A short debrief should be held with all participants to discuss the overall findings of the tabletop and ways in which the issues/gaps identified during the simulation can be solved.

# STEP 7

## FOLLOW-UP WITH PARTICIPANTS

Reconvene after a week to follow-up with participants to further discuss the methods to solve the issues and gaps identified and for general sharing of feedback received.

**Note: During the execution of the tabletop exercise, the controller has the authority to intervene in the work of the group if he or she detects actions or decisions that do not correspond to real response capabilities. For this reason, the sequence of injects can be changed, omitted, or complexities can be introduced as a way to examine the questionable actions.**



|f|

1d.l. SHEL·c  
HOUSEHOLD -  
S:TLEt,E

14.K. RESTORATION  
FAMILY LINKS  
(RFL)



14.N. COMMUNITY  
BASED HEALTH &  
FIRST AID (CBHF)

## 8.0 PHASE 5

# EVALUATE THE SIMULATION



During this process, the team of evaluators rates the performance of participants and how they meet the objectives of the simulation: Two types of evaluation are made in each simulation:

**1. Evaluation of the participants performance during the simulation**

**2. Evaluation of the organization of the simulation**

Evaluation of the participants and the organizers takes into consideration the following:



**TABLE 11: EVALUATION TIPS**

**PARTICIPANTS EVALUATION**

**DURING THE SIMULATION**

- During the exercise, the evaluators closely monitor the deliberations and actions of the participants without intervening in any way in the group dynamics. They use an evaluation form to record their assessments.

**AT THE END OF THE SIMULATION**

- At the end of the exercise, the coordinator of the evaluation team begins the evaluation period by asking the participants to express their perceptions of the exercise, individual and group performance, and their views on the quality and relevance of the exercise and methods used.

**POST SIMULATION**

- Following this, observers and controllers share the reasoning they use for evaluating performance, and finally the evaluation team communicates its views and findings on how the exercise was conducted.

- The evaluation team should meet to exchange notes, and to analyze and gather the individual assessments to compile a comprehensive assessment. This is delivered to the general coordinator of the event for use by the organization that sponsors the simulation

**ORGANIZATION EVALUATION: SERVES TO DOCUMENT AND PROVIDE FEEDBACK ON THE PROCESS IN ORDER TO IMPROVE THE ORGANIZATION OF EVENTS**

- Evaluation of the process of planning, design, and execution of the exercise

- The general coordinator should plan a time to perform this activity, and all team members should participate.

- A final evaluation document must be prepared to record these discussions and make recommendations to improve future exercises.



Red Cross

#WEARIT  
#SAVEIT

# 9.0 DRILLS, FUNCTIONAL AND FIELD EXERCISES

## 9.1 WHAT ARE DRILLS, FUNCTIONAL AND FIELD EXERCISES?

These are operations-based simulation exercises that allow for the practice of recognized procedures. They are hypothetical emergency scenarios developed to practice managing operations that simulate damage and injuries. Unlike the tabletop simulation exercises described above, these operations-based exercises require the actual mobilization and use of personnel and material resources. These exercises are carried out in 'real' time and each of the participants assumes the role that he or she customarily performs in his/her regular work.

In essence these exercises are similar to play acting; actors dramatize the events in a real life scenario and each situation evaluates the readiness of the national society to respond to a specific disaster. The following part of this guide is aimed at providing guidance on planning and implementing any type of operation-based simulation whether it is a drill, a functional or a field exercise.

**TABLE 12: OBJECTIVES AND CHARACTERISTICS OF OPERATIONS-BASED SIMULATION EXERCISES**

**OBJECTIVES OF THE SIMULATION**

- Test the relevance and effectiveness of plans, protocols, procedures, guidelines, and other operational mechanisms for emergency response.
- Evaluate abilities and the use of techniques, tools, resources, and actions related to the organization of emergency response operations.
- Improve coordination and application of specific techniques for risk reduction and control of consequences on the part of multiple actors and organizations.
- Evaluate general response of community groups, professional groups, administrative personnel, response teams, and others that have specialized training in response to disaster.

**CHARACTERISTICS OF THE SIMULATION**

- The drill takes place in real time.
- The exercise primarily consists of practical actions, performed by participants who have experience in emergency management, including persons who can play specific roles.
- As the drill proceeds, an environment is created that is as similar as possible to what would exist in a real emergency.
- The times for the drill are measured beginning with the activation of alarms or an order given to begin operations. Time "jumps" are not allowed in carrying out actions that corresponds to one scenario.
- The characters and materials used are real, except for performers acting as victims, relatives of victims, bystanders, journalists or other roles that are considered necessary for the exercise.
- The execution of drills may involve a degree of risk for participants and observers, so there must always be an emergency plan for the exercise itself.
- The exercise will be interrupted immediately if a situation creates real danger for the participants.



## 9.2 SIMILARITIES BETWEEN DISCUSSION-BASED SIMULATIONS AND OPERATIONS-BASED SIMULATIONS

1. They are all useful for evaluating and validating preparedness and response plans.
2. They all facilitate training, evaluation of tools and processes, and the exercise of decision making, teamwork, and inter-sectoral coordination.
3. They are all developed from a script prepared in advance.
4. All aspects have to be evaluated and the results obtained from the evaluation should lead to updating preparedness plans.

## 9.3 TYPES OF DRILLS

Drills have different characteristics depending on the number of persons who will be involved, whether those involved have prior knowledge that it will take place, and the degree of complexity. They can be classified as:

### **Partial or full-scale drills:**

This depends on whether all or only some services or agencies are involved. For example, a partial drill would be a simulation of the arrival of injured at the emergency department of a hospital. A full-scale drill requires the mobilization of personnel and equipment. Full-scale drills are expensive and time consuming to run and usually take a very long time to plan.

### **Pre-announced or surprise drills:**

This depends on whether the participants and the public are informed prior to the exercise, or whether only the coordinating committee know of it. Unannounced or surprise drills must be part of a process that includes earlier exercises that were announced and should be used only when there are established response plans. If the drill is announced, the public will be informed about the objectives and the location, date, and time of the exercise, but will not be given details about the staging, impacts of the simulated event, or the script.

### **Simple or complex:**

This depends on the variables to be evaluated. In a simple drill, only a single activity is carried out, for example the evacuation of a building, with neither injuries nor potential risks. A complex drill has a variety of situations associated with the main event, for example, multiple injuries or potential risk scenarios for higher numbers of the population.

Remember, as stated earlier, a drill is the part of the simulation where participants get to practice in their respective roles. In this chapter we discuss the steps of going about rolling out a drills exercise.

## 9.4 WHY DO A DRILL OR A FUNCTIONAL EXERCISE OR A FIELD EXERCISE

Any of these exercises allow for the evaluation of procedures, tools, skills, and individual and institutional capacity in relation to disaster preparedness and response. These exercises can be used to:

- Identify responsibilities, test established roles and use of techniques,
- Evaluate performance, skills and use of resources.
- Test coordination and control systems in the field under conditions similar to reality.
- Test inter-agency coordination, operational relationships, and implementation of instruments that give relevance, authority, and responsibility to agencies.
- Test time required for response or carrying out actions, as well as the behaviour of persons acting under the pressure generated in an emergency situation.
- Test the implementation of safety procedures and standards by health workers and emergency medical personnel.

Overall, these exercises have educational value, since it allows participants to test and apply knowledge gained in a practical setting.

**Note: The simulation exercise will be interrupted immediately if a situation creates real danger for the participants.**

## 9.5 HOW TO PLAN, PREPARE FOR AND EXECUTE A SIMULATION EXERCISE

The same phases used to plan a simulation is used when planning a drill. These phases are as follows:

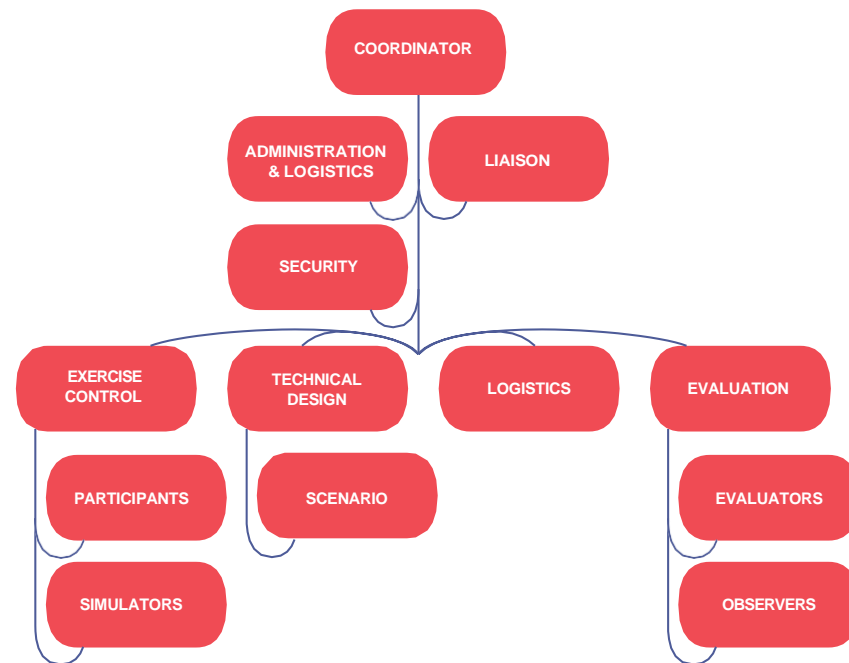


## 9.6 COORDINATION TEAM STRUCTURE FOR SIMULATION EXERCISES

The team structure for conducting drills is the same as the that for simulations. The figure below is a reminder of the structure. For more detailed information refer to section 3.4 of the document.

Throughout the preparatory process, it is necessary to maintain close contact with the different working groups of the coordination team to approve content, validate the tools, establish guidelines, monitor compliance with the activity schedule, correct deviations, and for other aspects of coordination to ensure proper development of the exercise. In cases where the drill involves community participation, preparation and coordination meetings with community leaders should be considered. The activities for carrying out the drill are outlined in the following content.

**FIGURE 3: COORDINATION TEAM STRUCTURE**





A blurred, grayscale background image showing two people in a meeting. One person on the left is wearing glasses and a dark jacket, and another person on the right is wearing a plaid shirt. They appear to be in a room with a brick wall.

10.0 PHASE 1

# PLAN THE SIMULATION EXERCISE



The steps involved in planning an operation-based simulation exercise is similar to that of a tabletop exercise except the scope would be bigger and the script might be more complex, requiring the participation of more local and even regional and international stakeholders. The following outlines to steps to be taken when planning a drill, a functional exercise or a field exercise:

# STEP 1

## DEFINE THE AIM

Remember the aim establishes the intent and overarching reason for the simulation. An example of an aim would be to test the response and coordination mechanism of a National Society to a level three disaster.

# STEP 2

## DETERMINE THE OBJECTIVES

Just as in a simulation the objectives define the results of the simulation and in general are derived from the aim. Remember to identify what plans, skills and procedures should be tested and determine how individuals or groups can expect to improve their knowledge, enhance skill sets, develop new abilities, or modify behaviours.

# STEP 3

## DETERMINE THE SCOPE, OUTPUTS AND ACTIVITIES FOR EACH OBJECTIVE

The scope determines the extent of the actions or the effect of the activities. It determines geographic scale, topics covered, degree of complexity, level and requirements of participation and the type of procedures to be carried out. The scope will also determine the outputs. Refer to Section 4 of the Guide for more details.

# STEP 4

## SET YOUR TIMELINE FOR EACH OUTPUT AND ACTIVITY

Refer to Section 4 for more details but keep in mind that the phase of the disaster management cycle, the real time and the time jump should be identified in this step as shown in the table at right.

**TABLE 13: DEVELOPING TIME JUMPS AND OUTPUTS**

PHASE	REAL TIME	TIME	OUTPUT
Response	First 1-2 hours of the simulation	0-12 hours of the disaster	<ol style="list-style-type: none"> <li>1. Situation Report</li> <li>2. Plan of Action</li> <li>3. Emergency Warning Messages</li> <li>4. Communication Strategy</li> <li>5. Operational Strategy</li> <li>6. Map of impacted areas</li> </ol>
Response	3-4 hours of the simulation	12-72 hours of the disaster	<ol style="list-style-type: none"> <li>1. Updated Situation Report</li> <li>2. Shelter Management Plans</li> <li>3. Updated Operational Strategy</li> <li>4. DREF</li> </ol>



# STEP 5

## DEFINE THE TARGET AUDIENCE AND STAKEHOLDERS

Depending on the type of simulation exercise being conducted as the scope may be larger than that of a tabletop exercise. The scope may include testing national plans and coordination mechanisms with regional and international organisations. Remember to identify the target audience and stakeholders based on the aim and objectives of the simulation.

# STEP 6

## IDENTIFY THE RESOURCES AND LOGISTICAL ARRANGEMENTS NEEDED AND ALLOCATE A BUDGET

Remember to develop a resources list and identify any logistical arrangements needed before creating your budget. If the scope of the simulation exercise is considerably larger and involves more stakeholders, you may have to schedule a meeting with the coordination team and representatives of the other agencies involved to identify all the resources and logistical arrangements needed.

Some of these needs may include:

### **1. Identifying physical spaces**

Depending on the type of exercise, this can vary from a building in use (typically for hospital drills or evacuation of facilities), an open area where the scenario is installed, an abandoned building adapted for the proposed exercise, or an entire community.

### **2. Purchase, secure, and obtain equipment and furniture**

Tables, chairs, blackboards, flip charts. Equipment such as sound systems, televisions, and closed circuit television are used to enhance viewing and monitoring for observers and the control team.





### **3. Arrange Photography and film team**

It is useful to have a photographic and film record of the exercise; this requires a crew and equipment.

### **4. Organize communications system**

A communications plan must be developed for maintaining contact among the different levels of coordination and the operational response teams during the exercise. This plan must regulate the use of radio frequencies of the institutions involved so as not to interfere with normal operations.

### **5. Prepare Identification for participants**

Name tags or badges for people involved with the event, including observers, evaluators, support staff, media, participants, and others. It is important to consider the expenses associated with running a simulation. Resources must be allocated for this purpose and provision for the reimbursement of personal expenses such as transportation, accommodation, and other expenses for persons involved in the exercise.

Ensure that the budget is as detailed as possible. See below for an example of a budget.



**TABLE 14: PROPOSED BUDGET**

<b>EXPENSE ITEMS</b>	<b>QTY</b>	<b>NO. OF DAYS</b>	<b>UNIT PRICE</b>	<b>CURRENCY</b>	<b>PAYMENT METHOD (CASH, BANK TRANSFER OR CHEQUE)</b>	<b>SUB-TOTAL</b>	<b>AMOUNT SPONSORED</b>
<b>TRANSPORT COST</b>							
<b>RENTING VENUES AND STAGING AREAS</b>							
<b>HIRE ACTORS</b>							
<b>STIPEND FOR EXTERNAL EVALUATORS</b>							
<b>RENTING EQUIPMENT</b>							
<b>PHOTOGRAPHY AND/OR VIDEOGRAPHY</b>							
<b>LUNCH</b>							
<b>REFRESHMENTS AND COFFEE BREAKS</b>							
<b>STATIONERY (NOTEPADS, PENS, FLIPCHARTS)</b>							
<b>PRINT-OUTS (CERTIFICATES, SOP)</b>							
<b>OTHERS</b>							


# STEP 7

## VERIFICATION OF PREPARATIONS

This step will require another meeting of the coordination team and other relevant stakeholders to ensure that all activities are assigned to person and to identify any challenges and determine solutions to any issues arising. When assigning tasks, also include deadlines for

**TABLE 15: ASSIGNING ACTIVITIES**

ACTIVITIES	NAME OF PERSON (ROLES ON TEAM)	START DATE	END DATE	STATUS
Ensuring availability of Facilities and equipment (comes from List of activities in Activity 3)	John Doe (Logistics Team)			Completed/ On-going. Not started.



ST JONATHAN & THE  
GIEMADINESW>Q(II  
!OC:IE'Y



**11.0 PHASE 2**

# **DESIGN THE SIMULATION**



# STEP 1

## DEVELOP THE MASTER TRUTH

Remember that the master truth or script, gives an overview of what has happened and the timeline of events that occurs throughout the duration of the simulation. Therefore, the script consists of a description of the features of the phenomenon and its effects on the population, infrastructure, services, environment, and general impact on the affected area. Refer to Section 5 for more detailed information.

Developing a script for a drill may require the input of stakeholders from different sectors, regional and even international organisations. Identify all the stakeholders that will be needed and clearly define the mechanisms for coordinating and distributing responsibilities and actions. When the drill involves the participation of the public and local authorities, make sure to involve community leaders and other relevant authorities should be involved in the planning and coordination. Each institution or organization should have a representative on the general coordination team.

An example of a script is as follows:

**TABLE 16: DEVELOPING THE MASTER TRUTH**

PHASE	REAL TIME	TIME JUMP	SITUATION
Hazard Impact	First 45 mins	0-12 hours after the disaster	<p>An earthquake of scale 5.5 has hit the town of Fredericks, population 12, 000 persons at 2 pm on a Wednesday. Country has been issued a tsunami warning.</p> <p>Initial Report:</p> <ul style="list-style-type: none"> <li>No. of persons injured: 300</li> <li>No. of persons deceased: 30</li> <li>No of houses damaged: 23</li> </ul> <p>Damage to Infrastructure:</p> <p>Partial collapse of two schools - there is uncertainty as to whether children or teachers may have been trapped under the debris.</p>

Response	First 1-2 hours	12-72 hours after the disaster	
			<p>No tsunami, however, there is a widespread blackout throughout the country due to fallen electricity poles. Limited cellphone usage as the system is overwhelmed.</p> <p>In addition, sewer lines and septic systems have also been subject to breakage and consequent leakage.</p> <p>There is a small health centre in the town, but the resources will be overwhelmed in this instance.</p> <p>There are only two designated shelter in the town and there is a fear that they will be overwhelmed within 24 hours.</p> <p>No. of persons deceased:45  No. of shelters open: 2  No. of persons in shelters: 200  No. of homes damaged: 68  Damage to infrastructure: The major road through the town has suffered considerable damage and there are cracks in its structure, and some uplift as well as subsidence. There is less damage among the minor connecting roads.</p>

In a full-scale exercise, the opening and management of a shelter could be simulated and here is where actors can be hired to pose as shelterees. Actors can also be hired to play injured victims to test the medical response mechanisms.





# STEP 2

## DEVELOP SUPPORTING MATERIALS

# STEP 3

## DEVELOP INJECTS

Remember that supporting materials are documents that replicate the type of information that would be available in a real disaster. Examples of supporting documents include media reports, situation reports, government statements, assessment reports, emails from Headquarters (HQ) or a branch office and other similar types of communication. Refer to Section 4 for further details.

**Note: More supporting materials will be developed as operations-based simulations typically test multi-sectoral disaster plans and SOPs.**

An inject is a prompt or an update on the scenario that stimulates additional responses from participants. Remember that injects should be created in alignment with the objectives of the simulation.



**TABLE 17: DEVELOPING INJECTS**


REAL TIME	TIME JUMP	INJECT #	INJECT SUMMARY	INJECT OBJECTIVE
9:00a.m	0-12 hours before	1  <b>40</b>	Emergency bulletin from the UWI Seismic Research Center stating that the island was hit by a 5.5 magnitude earthquake and that the western coast is on Tsunami Watch.	Make participants aware of the magnitude of the earthquake and the possibility of a tsunami. Prompt stakeholders to send out emergency warnings and to alert volunteers and CDRTs of the need for assistance with initial damage assessments.
9:45a.m.	12-72 hours after	2	Fire Services received a call indicating the partial collapse of two schools due to the earthquake and it is unknown whether students and teachers are trapped under the rubble.	Activate participants response mechanisms and to trigger the creation of situation reports, plan of action and craft emergency messages.





**12.0 PHASE 3**

**ORGANIZE THE  
SIMULATION**



This process involves executing all the activities identified in Step 7 of the planning phase. Since drills comprise of practical components additional features would have to be organised such as identifying staging areas and hiring actors to give the drill a feeling of realism.

Throughout the preparatory process, it is necessary to maintain close contact with the different teams identified in the Coordination Team Structure to approve content, validate the tools, establish guidelines, monitor compliance with the activity schedule, correct deviations, and for other aspects of coordination to ensure proper development of the exercise.

The following are some considerations that could be made when organizing the simulation:

### **1. Meet with Community Leaders**

As mentioned in Section 9.6, in cases where the exercise involves participation of the public or communities, it is important to hold meetings with community leaders. It is important to include communities in discussions when planning the simulation to get their feedback and buy-in but it is also important to include them at this stage to brief them on what is expected from the community and if the execution of the exercise will have any negative affects on the community.

### **2. Conduct Site Visits**

Prior to the exercise the coordinating team and technical personnel responsible for the simulation should make a reconnaissance visit to the sites where the simulation will take place.

The evaluation team should know the location of the bases of the responding institutions participating in the exercise, such as fire-fighters, paramedics and police as this will help them to evaluate response times.

The team responsible for the simulation must know be aware of the location of critical features such as fire hydrants and emergency exits that may be required in the event of a real emergency.

### 3. Select and Prepare Actors

The team of actors should be coordinated by an individual with in-depth knowledge of the script and general design of the exercise.

The selection of actors should be done early enough to allow for proper preparation. It is advisable to get the cooperation of groups such as medical students, nurses, and first aid volunteers. Theatre groups or drama students can be recruited to reenact the scene.

A card should be prepared for each simulator describing all the relevant information about his/her role. This will serve to guide those applying moulage and makeup and those giving instructions to the actors. The card should include the description of the injuries of the character being portrayed as well as the expected behavior of the actor taking into account the injuries sustained and the situation encountered.

### 4. Have a Medical and Safety Plan

Every simulation should have a safety plan that includes quick access to medical assistance and management in the event of a real emergency. The plan should also consider public safety issues, coordination with relief organizations and hospital networks. As part of this plan, the team should consider:

- Availability of first responder teams that are not participating in the exercise who can respond to real emergencies (paramedics, fire-fighters). Designate an alarm or safe word to indicate that a real emergency occurred. For example, “no duff” or “pineapple” or “marshmallow” can be used.
- In the event of an actual emergency during the exercise, the persons nearest or directly involved in the incident should draw attention to it to ensure the safety of other participants.

- When a real emergency occurs, the general coordinator or the designated security officer will be responsible for ordering the end of the exercise.

- In cases where the exercise involves simulated victims, it is necessary to coordinate specifically with participating hospitals to avoid confusion between real patients and simulated patients. In that regard the methods of identification for the drill must be disclosed. It is also important to ensure that health personnel are prepared to deal both with actual patients and those simulating injuries.

### 5. Selection of Evaluators

Evaluators are responsible for assessing the actions and decisions of participants and for that reason are selected according to their knowledge, experience, and ability to critique the subject and characteristics of the exercise. Evaluators should be selected well in advance and must receive sufficient information regarding their roles and appropriate use of evaluation tools.

#### Criteria for selecting evaluators:

- Knowledge of the National Society’s role
- Possess expert knowledge of the exercise
- Experience conducting evaluations
- Be neutral

The evaluators should be provided with information well in advance of the exercise so that they can familiarize themselves with the exercise and the expectations of the evaluations.

## 6. Select Observers

These are usually authorities, experts or other persons who are invited to be present during the exercise, without having an active role. They are not part of the evaluation team but may give their opinions during the evaluation period if they so choose.

## 7. Brief Mass Media

Simulations are expected to arouse public interest, so it is important to inform the media about the objectives of the exercise and its value in raising community awareness about emergency and disaster preparedness. It should be explained to the media that a simulation is performed to assess preparedness and any faults that are detected should not be sensationalized as they will be corrected as part of the exercise.

## 8. Preparation for Staging

A list of activities required for assembling the scenes should be prepared, indicating who is responsible for setting it up, the amount and type of materials needed, the time required for installation, and any other requirements (see table at right).

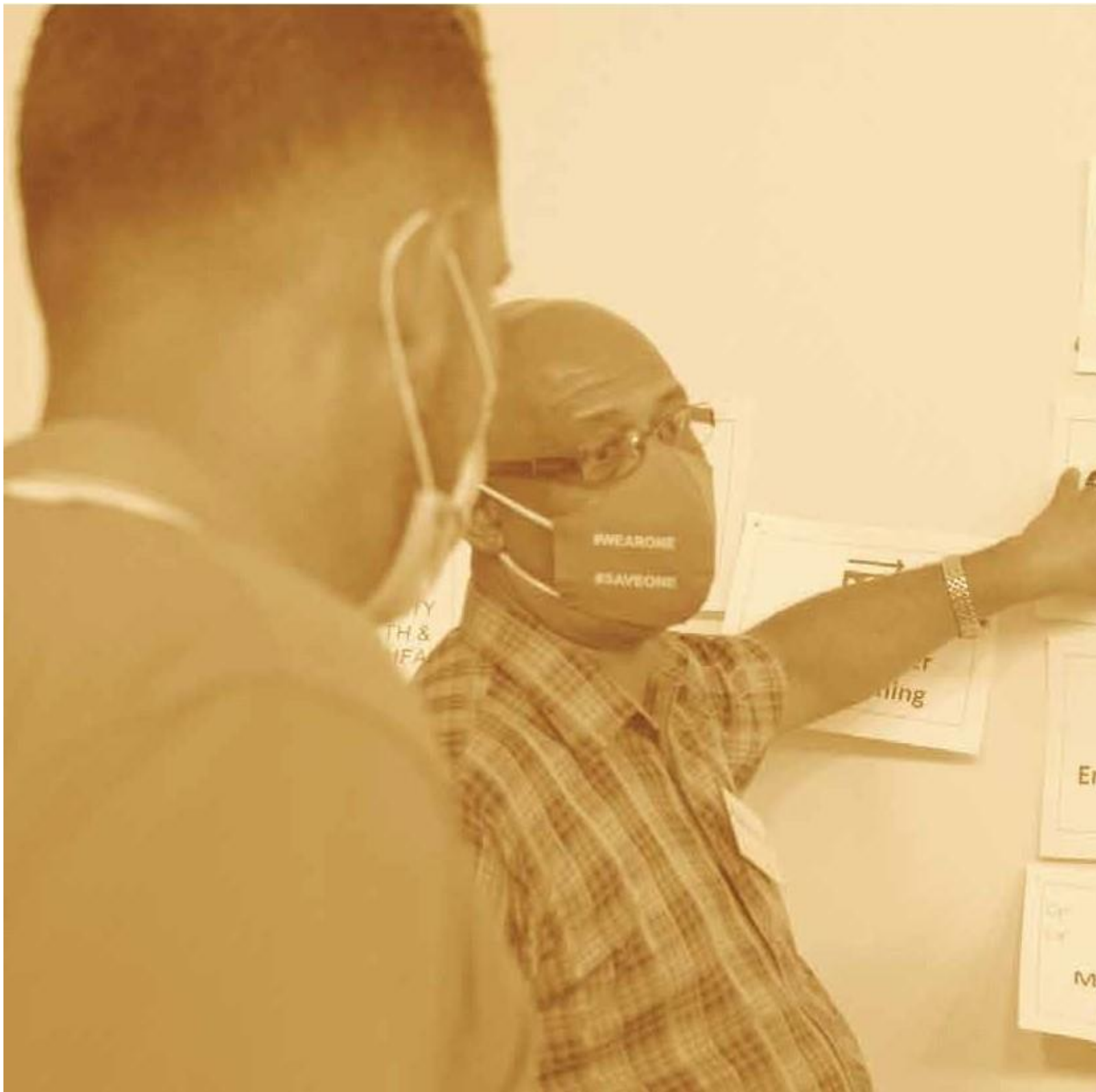
Well in advance of the simulation, it is essential to check that all materials, equipment, and devices used in staging are available and operate correctly. The table below provides a good starting point of identifying the essential materials.

**TABLE 18: RESOURCES AND LOGISTICAL ARRANGEMENTS CHECKLIST**

	RESPONSIBLE	MATERIALS NEEDED	OTHER
<b>PROPS</b>			
<b>MOULAGE (MAKEUP)</b>			
<b>MEDICAL SUPPLIES</b>			
<b>TRANSPORTATION</b>			
<b>REFRESHMENT &amp; SNACKS</b>			
<b>EQUIPMENT</b>			
<b>COMMUNICATION/MEDIA</b>			







-  
3- Operational  
capacity

Emergency Needs  
Assessment

of N  
Ma  
Ma; n, ng of Ns  
caPlitc, u s



## 13.0 PHASE 4

# EXECUTE THE SIMULATION



# STEP 1

## BRIEF PARTICIPANTS AT ALL STAGING AREAS

The general coordinator and the person responsible for monitoring the exercise (controller) should brief participants at each staging area on the process and the roles assigned to the participants and the expected outputs of each role before giving the all clear to start.

# STEP 2

## BRIEF EVALUATORS

The general coordinator should brief the evaluators and observers and reiterate that they are there to observe the work of the participants without interrupting them or the flow of the exercise. Reiterate that evaluators are to document all activities based on the criteria of drill scenario so that these actions are observed and evaluated.

# STEP 3

## ENSURE ALL PARTICIPANTS ARE PROPERLY IDENTIFIED

Everyone at all staging sites must be properly identified so that it is clear what roles and actions each will perform within the area designated for the simulation.

# STEP 4

## ENSURE ALL PARTICIPANTS ARE AWARE OF THE SAFETY PLAN

Ensure that all participants are aware of medical personnel that are on site at the staging areas from which they can get help should a real emergency occur. Also ensure that all participants are aware of the phrase to use to indicate that a real emergency has occurred.

# STEP 5

## MANAGE THE RELEASE OF INJECTS

The control team manages the execution of the exercise and the sequence of releasing the injects and supporting documents that reveal the situations, problems, and resources as determined by the script.

# STEP 6

## MANAGE DISCUSSIONS WITH PARTICIPANTS

Participants take individual or collective decisions according to injects or situations that are presented in the script.

# STEP 7

## CONDUCT A DEBRIEF (HOT WASH) IMMEDIATELY AFTER THE DRILL

A short debrief also known as a hot wash should be held with all participants to discuss the overall findings of the simulation and ways in which the issues/gaps identified during the simulation can be solved. It allows evaluators the opportunity to seek clarification on certain actions taken by participants. Evaluators should take notes during this brief which can be further discussed during phase 5, which is the evaluation of the simulation exercise. This debrief should not be more than 30 minutes long.

# STEP 8

## FOLLOW-UP WITH PARTICIPANTS

Reconvene after a week to follow-up with participants to further discuss the methods to solve the issues and gaps identified and for general sharing of feedback received.

IFRC



## 14.0 PHASE 5

# EVALUATE THE SIMULATION



Similar to the tabletop exercise, this process involves a team of evaluators rating the performance of participants and how they met the objectives of the simulation.

Two types of evaluations are made in the simulations:

**1. Evaluation of the participants performance during the simulation and**

**2. Evaluation of the organization of the simulation.**

Evaluation of the participants and the organizers should include taking a critical look at the following:

**1. Organization: The achievement of goals, given the assumptions under which participants are working.**

**2. Information management.**

**3. Decision making: Their ability to take appropriate and pertinent decisions under pressure and the use of innovation in the absence of critical resources.**

**4. Coordination and integrated management of the situation.**

**5. The logic and consistency of decisions made compared to the NS Standard Operating Procedures.**

**6. The specific performance of each of the participants (leadership, involvement, interest, teamwork, etc.).**

Refer to Table 12 in Section 8.0 for more information.





At the follow-up evaluation meeting (scheduled to take place one week after the simulation) with all stakeholders and participants, each evaluator should be given the opportunity to present their findings and gaps that were identified. This should be followed by a group discussion so that participants can discuss the evaluations and share some of their lessons learned. Observers should also be given the opportunity to discuss their observations should they choose to.

Some discussion points can include:

**1. Identifying what went well**

**2. Identifying what can be improved**

**3. Identifying lessons learnt**

**4. Identifying ways to improve mechanisms tested**

The evaluators' findings and pertinent lessons learnt as well as ways for improving that was discussed during the evaluation should be documented in an After-Action Report (AAR). The AAR will contain a summary of the exercise, a general analysis of the performance of the participants and the achievements of the exercise. The

AAR can then be used to develop an Improvement Plan

which is an actionable plan that outlines the incorporation of lessons learnt and other actions that can be taken to ensure improved response capabilities.

## 15.0 CONCLUSION: FOCUS ON THE AIM AND OBJECTIVES

Remember that simulations and evaluations are conducted to identify ways in which systems and plans and the coordination mechanisms of these plan can be improved. It is important to focus on the aim and objectives of the simulation rather than the criticisms received. It is important to conduct simulations where they are discussion-based or operations-based, to increase overall efficiency and effectiveness of staff and volunteers to assist in times of real emergencies and disasters.

## 16.0 RESOURCES

Design and conduct of simulation exercises – SIMEX, a companion for implementing Sendai Framework Priority 4 on enhancing disaster preparedness for effective response (2020), [https://www.preventionweb.net/files/53348\\_simulation.pdf](https://www.preventionweb.net/files/53348_simulation.pdf)

Guidelines for developing emergency simulations and drills, PAHO (2011), <https://www.paho.org/en/search/r?keys=guidelines+for+developing+emergency+simulations+and+drills+Disasters>



